WE CLAIM

1. A dry, removable, storage stable, sterile wound dressing which provides a dry hemostatic zone, said dressing comprising a matrix containing a hemostasis-promoting amount of a hemostatic agent which accelerates blood coagulation and clot formation at an interface between a wound surface and the hemostatic zone.

2. The wound dressing according to claim 1, wherein said hemostatic agent comprises a dry hemostatic polymer composition comprising the reaction product of an uncharged substance containing organic hydroxyl groups and a bi-functional substance containing at least one of a halogen atom or an epoxy group, said bi-functional substance being reactive with the organic hydroxyl groups of the uncharged substance.

3. A dry, sterile, removable wound dressing comprising a substrate and the wound dressing according to claim 1.

4. The wound dressing of claim 1, wherein the substance containing the uncharged hydroxyl group is a carbohydrate, polysaccharide or polyol.

5. The wound dressing of claim 4, wherein the carbohydrate is saccharose or sorbitol.

6. The wound dressing of claim 4, wherein the polysaccharide is a dextran, starch, alginate or cellulose.

7. The wound dressing according to claim 6, wherein said polysaccharide is dextran

8. The wound dressing of claim 1, wherein the polyol is polyvinyl alcohol.

9. The wound dressing of claim 2, wherein the substance containing the halogen atom is epichlorohydrin or dichlorohydrin.

10. The wound dressing of claim 2, wherein the substance containing the epoxy group is diepoxybutane, diepoxypropyl ether or ethylene-glyco-bis-epoxypropyl ether.

11. The wound dressing according to claim 1, wherein the hemostatic polymer composition further contains at least one of collagen, fibrinogen and thrombin.

12. The wound dressing according to claim 1, further comprising a pharmaceutical agent.

13. The wound dressing according to claim 12, wherein said pharmaceutical agent is at least one of anti-inflammatory analgesic agents, steroidal anti-inflammatory agents, antihistamines, local anesthetics, bactericides or disinfectants, vasoconstrictors,

chemotherapeutic drugs, antibiotics, keratolytics, cauterizing agents, antiviral drugs and mixtures thereof.

14. A method for arresting bleeding and inducing rapid blood coagulation and clot formation at a bleeding or wound site, comprisisng applying the dry wound dressing of claim 1 to said wound or bleeding site for a period of time sufficient to induce rapid blood coagulation at said site and removing the wound dressing after the blood at said bleeding or wound site has clotted.

15. The method according to claim 14, comprisisng applying the dry wound dressing by pressing a hemostatic agent-containing surface of the dry wound dressing against a surface of a wound or bleeding site for a period of time until clotting has occurred at an interface between the hemostatic surface and the wound or bleeding site surface.

16. The method according to claim 14, comprising applying the dry wound dressing by using a forceps or a pressure regulated syringe, in order to accelerate blood coagulation and clot formation at an interface between the wound or bleeding site surface and the dry hemostatic zone of the dry wound dressing..

17. The method of claim 14, comprising inducing blood coagulation in a period of time of from about 4 minutes to about 20 minutes.

18. The method according to claim 17, wherein the period of time ranges from 6 to about 10 minutes.

19. The method according to claim 14, comprising inducing blood coagulation and hemostasis by the dry hemostatic zone of the dry wound dressing.

20. The method according to claim 14, comprising inducing blood coagulation and hemostasis by contacting the polymer composition contained in the reagent zone with blood or bleeding tissue without addition of exogenous thrombin.

21. The method according to claim 14, comprising attracting and activating platelets and clotting factors normally found in blood at a surface of the wound and the hemostatic zone because of the hemostatic polymer composition contained in the hemostatic zone of the dry wound dressing.

22. The method according to claim 14, comprising concentrating blood fibrinogen within the site of bleeding by the hemostatic polymer composition.

23. The method according to claim 22, wherein the concentrated fibrinogen attract and activate platelets and clotting factors found in blood within the site of bleeding.

24. A dry, sterile wound dressing which provides an anti-microbial hemostatic zone, said dressing comprising a matrix containing a complex comprisisng a hemostasis-promoting amount of a hemostatic agent effective to accelerate blood coagulation and clot formation at an interface between a wound or bleeding site surface and the reagent zone and an effective amount of an anti-microbial agent.

25. The wound dressing according to claim 24 wherein said hemostatic agent comprises a dry hemostatic polymer composition comprising the reaction product of an uncharged substance contain organic hydroxyl groups and a bi-functional substance containing at least one of a halogen atom or an epoxy group, said bi-functional substance being reactive with the organic hydroxyl groups of the uncharged substance..

26. A hemostatic patch suitable for rapidly arresting bleeding and inducing rapid clot formation at a wound or bleeding site, said patch comprising a dry sterile storage-stable flexible matrix containing a hemostatic agent composition on one face only thereof which provides a dry hemostatic zone, said patch being effective to accelerate blood coagulation and clot formation at an interface between a wound or bleeding site surface and the reagent zone of the patch.

27. The hemostatic patch according to claim 26, wherein the hemostatic agent comprises a dry hemostatic polymer compistion comprising the reaction product of an uncharged substance contain organic hydroxyl groups and a bi-functional substance containing at least one of a halogen atom or an epoxy group, said bi-functional substance is reactive with the organic hydroxyl groups of the uncharged substance.

28. The homeostatic patch according to claim 26 in a form useful for arresting bleeding from a lesion on a parenchymal organ.

29. The hemostatic patch according to claim 26, wherein the matrix is biodegradable.

30. The hemostatic patch according to claim 29, wherein the biodegradable matrix is selected from the group consisting of absorbable gelatin, calcium alginate, calcium/sodium elginate, collagen and oxidized regenerated cellulose.

31. The hemostatic patch according to claim 30, wherein the biodegradable matrix is absorbable gelatin.

32. A sterile package comprising an outer protective layer and the hemostatic patch according to claim 26.

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33. A method for stanching bleeding from a wound, which comprises applying to a wounded surface of the wound the hemostatic patch according to claim 26 for a period of time sufficient to stanch said bleeding.

34. A method for accelerating rapid blood coagulation and clot formation at a bleeding or wound site, comprising applying the hemostatic agent-containing surface of the hemostatic patch of claim 26 against a wound or bleeding surface for a period of time until clotting has occurred at an interface between the hemostatic patch and the wound or bleeding site surface and removing the hemostatic patch after the clot has formed at said wound or bleeding site.

35. The method according to claim 34, wherein the period of time is from about 4 to about 20 minutes.

36. The method according to claim 34, which comprises pressing the hemostatic agent-containing surface of the hemostatic patch against the wounded surface for a period of time until clotting has occurred at the interface between the hemostatic patch and the wounded surface.

37. A bandage comprising

(i) a central portion adapted to be directly applied to a wound or bleeding site; and

(ii) a strip for adhesion to an area continuous to and in spaced-apart relation to the wound, or bleeding site, whereby the bandage is adapted to be applied substantially, without wrinkling to a contoured or flexing body part and is adapted to adhere reliably, wherein the central portion of said bandage comprises a hemostatic zone containing a suitable matrix having a hemostasis-promoting amount of a hemostatic agent effective to accelerate blood coagulation and clot formation at an interface between a wound or bleeding site surface and the central portion of said bandage.

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38. The bandage according to claim 37, wherein the hemostatic agent comprises a hemostatic polymer composition comprising the reaction product of an uncharged substance contain organic hydroxyl groups and a bi-functional substance containing at least one of a halogen atom or an epoxy group, said bi-functional substance is reactive with the organic hydroxyl groups of the uncharged substance.

39. The method according to claim 38, wherein the hemostatic polymer composition is in dry form.

40. A method for stanching bleeding from a wound, which comprises applying to the wounded surface the bandage of claim 37.

41. A dry, removable wound healing dressing pouch comprising

(a) a strip comprising:

(i) a flexible substrate sheet and the dry sterile wound dressing of claim 1 carried on said strip, and

(b) a protective layer enclosing the strip.

42. A method for temporarily arresting bleeding at a wound or bleeding, comprising applying, separately,

(i) a separation matrix to said wound or bleeding site;

(ii) applying over said separation matrix an effective amount of a hemostasis-promoting amount of a hemostatic agent to cover the wound or bleeding site, and

(iii) removing the separation matrix and the hemostatic agent after bleeding has been arrested or stanched at the wound or bleeding site.

43. The method according to claim 42, wherein the hemostatic agent comprises a dry hemostatic polymer composition comprising the reaction product of an uncharged substance containing organic hydroxyl groups and a bifunctional substance containing at least one of a halogen atom or an epoxy group, said bi-functional substance being reactive with organic hydroxyl groups.

44. A method of cleansing wounds at a bleeding or wound site, comprising applying the dry wound dressing according to claim 1 to the bleeding or wound site surface for a period of time sufficient to cleanse the wound site, wherein the hemostatic zone of the dry wound dressing is reactive with the local environment of the wound or bleeding site surface so as to draw excess fluids, bacteria and exudate from the environment prior to inducing clot formation at said wound or bleeding site.